

PATENT Ser. No. 10/043,006

Listing of Claims:

Claim 1. (original): A method for reducing or eliminating wetstacking in internal combustion engine systems operating substantially under capacity, the method comprising the steps of:

- establishing an exhaust temperature minimum set point;
- monitoring exhaust temperature of an engine; and
- restricting air intake into the engine when the temperature is below the set point.

Claim 2. (original): The method of claim 1 additionally comprising the step of heating intake air when the exhaust temperature is below the set point.

Claim 3. (original): The method of claim 2 additionally comprising the step of dividing intake air into first and second paths, the first path operated on by the restricting step and the second path operated on by the heating step, wherein the second path comprises a fixed flow choke.

Claim 4. (original): The method of claim 1 wherein the restricting step employs a proportional controller to regulate amount of restriction.

Claim 5. (original): The method of claim 1 wherein the restricting step comprises restricting air intake into the engine via a valve upstream of an intake manifold of the engine.

Claim 6. (original): The method of claim 5 wherein the restricting step comprises restricting air intake into the engine via a butterfly valve upstream of an intake manifold of the engine.

PATENT Ser. No. 10/043,006

Claim 7. (original): The method of claim 5 wherein the restricting step comprises restricting air intake into the engine via a valve upstream of an intake manifold of the engine, wherein the valve does not eliminate air intake even when fully closed.

Claim 8. (currently amended): A method for reducing or eliminating wetstacking in internal combustion engine systems operating substantially under capacity, the method comprising the steps of:

monitoring an operational parameter of an engine; and

based on the parameter indicating that the engine is operating substantially under capacity, restricting air intake into the engine via a valve upstream of an intake manifold of the engine.

Claim 9. (original): The method of claim 8 wherein the monitoring step comprises monitoring exhaust temperature of the engine and the restricting step is employed when the temperature is below a set point.

Claim 10. (original): The method of claim 8 additionally comprising the step of heating intake air when the restricting step is operating.

Claim 11. (original): An apparatus for reducing or eliminating wetstacking in internal combustion engine systems operating substantially under capacity, said apparatus comprising:

means for monitoring exhaust temperature of an engine; and

means for restricting air intake into the engine when the temperature is below an exhaust temperature minimum set point.

PATENT Ser. No. 10/043,006

Claim 12. (original): The apparatus of claim 11 additionally comprising means for heating intake air when the exhaust temperature is below the set point.

Claim 13. (original): The apparatus of claim 12 additionally comprising means for dividing intake air into first and second paths, the first path operated on by the restricting means and the second path operated on by the heating means, wherein the second path comprises a fixed flow choke.

Claim 14. (original): The apparatus of claim 11 wherein the restricting means comprises a proportional controller to regulate amount of restriction.

Claim 15. (original): The apparatus of claim 11 wherein the restricting means comprises means for restricting air intake into the engine via a valve upstream of an intake manifold of the engine.

Claim 16. (original): The apparatus of claim 15 wherein the restricting means comprises means for restricting air intake into the engine via a butterfly valve upstream of an intake manifold of the engine.

Claim 17. (original): The apparatus of claim 15 wherein the restricting means comprises means for restricting air intake into the engine via a valve upstream of an intake manifold of the engine, wherein the valve does not eliminate air intake even when fully closed.

PATENT Ser. No. 10/043,006

Claim 18. (currently amended): An apparatus for reducing or eliminating wetstacking in internal combustion engine systems operating substantially under capacity, said apparatus comprising:

means for monitoring an operational parameter of an engine; and

means for restricting air intake into the engine, based on the parameter indicating that the engine is operating substantially under capacity, via a valve upstream of an intake manifold of the engine.

Claim 19. (original): The apparatus of claim 18 wherein the monitoring means comprises means for monitoring exhaust temperature of the engine and the restricting means operates when the temperature is below a set point.

Claim 20. (original): The apparatus of claim 18 additionally comprising means for heating intake air when the restricting means is operating.

Claim 21. (previously added): The method of claim 1 wherein the engine comprises an alcohol burning engine.

Claim 22. (previously added): The method of claim 1 wherein the engine comprises a diesel burning engine.

Claim 23. (previously added): The method of claim 8 wherein the engine comprises an alcohol burning engine.

PATENT Ser. No. 10/043,006

Claim 24. (previously added): The method of claim 8 wherein the engine comprises a diesel burning engine.

Claim 25. (previously added): The apparatus of claim 11 wherein said engine comprises an alcohol burning engine.

Claim 26. (previously added): The apparatus of claim 11 wherein said engine comprises a diesel burning engine.

Claim 27. (previously added): The apparatus of claim 18 wherein said engine comprises an alcohol burning engine.

Claim 28. (previously added): The apparatus of claim 18 wherein said engine comprises a diesel burning engine.